

Exhibit G

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
Claim 58	
58. A process for capturing and storing a data stream, comprising the steps of:	<p>Samsung's DVRs capture and store data streams including television programs. For example, Samsung DVRs are used to capture a data stream provided by a Cable Company, such as Time Warner Cable</p> <p>See, e.g.,</p> <p>http://www.timewarnercable.com/socal/learn/cable/dvrhddvr/ (DVR/HD-DVR Time Warner Cable SoCal) ("With Time Warner Cable DVR services, the choice is always yours. Record in standard definition or HD. Have the freedom to record in one room and watch it in another with Whole House HD-DVR. With DVR, You Can: Pause live TV for up to one hour, or fast-forward to catch up on your favorite shows. Watch one live show, while recording another. Store up to 80 hours on most DVRs and 25 hours on HD-DVRs.");</p> <p>http://www.timewarnercable.com/MediaLibrary/1/1/FAQ/Digital%20Cable/Samsung/Samsung_SMT_3090HD_UserGuide.pdf (Samsung SMT-H3090 2008 User Guide), p. 2 ("Viewing one program while recording another program." "Simultaneous Time Shifted Buffering for two Programs."); p. 9 ("Record two live TV programs simultaneously while watching two recorded programs on HDD.")</p> <p>"TIME WARNER CABLE AND SAMSUNG FORGE AGREEMENT FOR TRU2WAY SET-TOP DEVELOPMENT, PURCHASE & DEPLOYMENT</p> <p>Release Date: 07/06/2009</p>

¹ In this chart, reference is made to a Samsung DVR identified as SMT-H3090. The same analysis applies to other Samsung DVRs with the same functionality, including but not limited to set top boxes with DVR functionality bearing the model designations, SMT-H3272, SMTH3270, and SMT-H4372 and other DVRs having the same functionality. Additionally, this chart also references the specific processor included in the SMT-H3090. The same analysis applies to DVRs that include other processors with the same functionality, for example the processors in each of the accused DVRs.

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	physical or logical location for playback or other manipulation.
providing cache access means for selecting a portion of the linear cache for streaming access to information stored therein;	<p>Samsung's DVRs provide a cache access means for selecting a portion of the linear cache for streaming access to information stored in the linear cache.</p> <p>See, e.g.,</p> <p>For example, Samsung's DVRs includes a controller that selects a portion of the linear cache for streaming access to information, to, among other things, pause, fast forward, slow forward, fast rewind, and slow rewind live television. This functionality utilizes a cache of data. Based on information and belief, Samsung's DVRs include a playback pointer that points to a block of data within the linear cache and can be moved or set to point to a new block of data to achieve random access.</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>																		
	<p>DVR Features</p> <p>SMT-H3090 supports DVR feature through the Hard Disk Drive as follows.</p> <table border="1" data-bbox="583 480 1360 1049"> <thead> <tr> <th>Feature</th><th>Description</th></tr> </thead> <tbody> <tr> <td>File Playback</td><td>Play, Stop, Rewind, Pause for recorded contents.</td></tr> <tr> <td>File Trick Mode</td><td>1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)</td></tr> <tr> <td>Time-Shift Recording</td><td>User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.</td></tr> <tr> <td>Instant Recording</td><td>Record live TV program instantly</td></tr> <tr> <td>Watching and Recording</td><td>Record two live TV programs simultaneously while watching two recorded programs on HDD.</td></tr> <tr> <td>Audio/Radio Recording</td><td>Audio or Radio program recording</td></tr> <tr> <td>Simultaneous Recording and Time Shift Recording</td><td>Up to two Simultaneous Recording and Time-Shift Recording on live TV programs</td></tr> <tr> <td>EPG Recording</td><td>Scheduled recording using EPG</td></tr> </tbody> </table> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the Cache Access Means, for example that of selecting a portion of the linear cache for streaming access to information stored therein, in substantially the same way, for example by providing hardware and/or software that access the data stored in the linear cache, to yield the same result, in which streaming access is provided to data stored in the linear cache.</p>	Feature	Description	File Playback	Play, Stop, Rewind, Pause for recorded contents.	File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)	Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.	Instant Recording	Record live TV program instantly	Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.	Audio/Radio Recording	Audio or Radio program recording	Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs	EPG Recording	Scheduled recording using EPG
Feature	Description																		
File Playback	Play, Stop, Rewind, Pause for recorded contents.																		
File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)																		
Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.																		
Instant Recording	Record live TV program instantly																		
Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.																		
Audio/Radio Recording	Audio or Radio program recording																		
Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs																		
EPG Recording	Scheduled recording using EPG																		

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	different playback rates.
providing synchronization means for synchronizing streamed information from said linear cache for delivery to said cache access means;	Samsung's DVRs provide synchronization means for synchronizing streamed information from the linear cache for delivery to the cache access means. See, e.g., Samsung's DVRs use Broadcom processors, such as Broadcom's 7400 series.

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>“The STB allows for 90 minutes of recording for Time-shift recording”</p> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the linear cache , for example that of maintaining a window that represents a time span into a past history of said data steam that includes a most recently stored portion of said data stream, for example by providing hardware and/or software that allows for access to a time span of data stored in the linear cache, to yield the same result, in which a time span of past data can be played back from the linear cache.</p>
<p>wherein said linear cache discards any information that falls outside of said window.</p>	<p>Samsung's DVRs discard any information that falls outside of the window of the linear cache.</p> <p>On information and belief, information that is older than 90 minutes is no longer accessible to the user or is otherwise discarded.</p> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the Linear Cache, for example that of discarding information that falls outside of said window, for example by providing hardware and/or software that prevents a user from accessing information outside of the window, to yield the same result, in which a user cannot access information that is older than the timespan of the window.</p>
Claim 59	
<p>59. The process of claim 58, wherein said cache control means sends clock events to said cache access means to</p>	<p>Samsung DVRs include a cache control means that sends clock events to said cache access means to control the rate and direction of said streaming access. For example, Samsung DVRs include slow forward and slow reverse playback.</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>																		
control the rate and direction of said streaming access.	<p>DVR Features</p> <p>SMT-H3090 supports DVR feature through the Hard Disk Drive as follows.</p> <table border="1"> <thead> <tr> <th>Feature</th><th>Description</th></tr> </thead> <tbody> <tr> <td>File Playback</td><td>Play, Stop, Rewind, Pause for recorded contents.</td></tr> <tr> <td>File Trick Mode</td><td>1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)</td></tr> <tr> <td>Time-Shift Recording</td><td>User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.</td></tr> <tr> <td>Instant Recording</td><td>Record live TV program instantly</td></tr> <tr> <td>Watching and Recording</td><td>Record two live TV programs simultaneously while watching two recorded programs on HDD.</td></tr> <tr> <td>Audio/Radio Recording</td><td>Audio or Radio program recording</td></tr> <tr> <td>Simultaneous Recording and Time Shift Recording</td><td>Up to two Simultaneous Recording and Time-Shift Recording on live TV programs</td></tr> <tr> <td>EPG Recording</td><td>Scheduled recording using EPG</td></tr> </tbody> </table> <p>On information and belief, at least one of these slow forward playback and slow reverse playback modes are implemented by, among other things, increasing or decreasing the decoder system clock rate. For example, the PCR block may be used by rate managers to control the playback rate of the decoders.</p>	Feature	Description	File Playback	Play, Stop, Rewind, Pause for recorded contents.	File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)	Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.	Instant Recording	Record live TV program instantly	Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.	Audio/Radio Recording	Audio or Radio program recording	Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs	EPG Recording	Scheduled recording using EPG
Feature	Description																		
File Playback	Play, Stop, Rewind, Pause for recorded contents.																		
File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)																		
Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.																		
Instant Recording	Record live TV program instantly																		
Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.																		
Audio/Radio Recording	Audio or Radio program recording																		
Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs																		
EPG Recording	Scheduled recording using EPG																		

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>PCR Recovery Block</p> <p>The data transport design supports two equivalent PCR recovery circuits, each programmed independently.</p> <p>Each data transport PCR module is capable of extracting the PCR information from a selected packet stream and generating Timebase pulses (Timebase is a 27-MHz pulse train in 108-MHz clock domain) output that can be used by rate managers. Each PCR module is also used to send the extracted PCRs directly to the audio and video decoders to ensure that both decoders are using the same PCR.</p> <p>As another example, clock events may include packet timestamp data that may be used to pace playback of recorded data. For example:</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs


<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>Playback</p> <p>The data transport module supports five independent playback modules. The following description is for a single playback module.</p> <p>The playback function is used to provide either MPEG Transport Stream (TS), DIRECTV transport stream, PES, ES, or Program Stream data to the audio decoder and video decoder and/or to the Remux modules. Additionally, the playback function can route data from memory through the data transport block for PID parsing, descrambling and/or filtering to be recorded, stored in the message buffers, or routed to RAVE and/or high-speed interface. The playback module supports transport stream with or without local timestamps. The host CPU is responsible for putting the data into external DRAM from wherever the data is really being sourced (i.e., hard drive, internet, transport memory buffer, etc.) Once the data has been put into external DRAM, the playback module can be enabled to read the data from external DRAM and deliver it to RAVE and/or to the high speed transport and Remux modules. The playback circuit also uses linked-list descriptors for buffer management.</p> <div style="text-align: center;">  Broadcom Corporation </div> <div style="display: flex; justify-content: space-between;"> Page 1-24 Data Transport Processor Document 7405-1HDM02-R </div> <p style="text-align: center;">5/30/2008 8QHGG</p> <hr style="border: 2px solid black;"/> <div style="display: flex; justify-content: space-between;"> <div> <p>Preliminary Hardware Data Module</p> <p>05/13/08</p> </div> <div> <p>BCM7405</p> <p>Functional Description</p> </div> </div> <p>The playback module also includes a pacing function which can optionally pace the playback data using the local data transport timestamps (when the playback data was recorded with timestamps).</p>
Claim 60	

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
<p>60. The process of claim 58, further comprising the step of:</p> <p>providing stream capture means for capturing information for a particular data stream type and encoding said information before storing said information in said linear cache.</p>	<p>Samsung's DVRs provide a means to capture data stream information and encode it before storing it in the linear cache.</p> <p>For example, on information and belief, Samsung DVR software encodes the information, for example, during selection of a particular channel, and similar functions, including without limitation recording a television program. See, e.g., (BCM7400 Product Brief) (showing a MPEG-2/DVB Transport unit):</p>

EXHIBIT C

Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195 Samsung DVRs

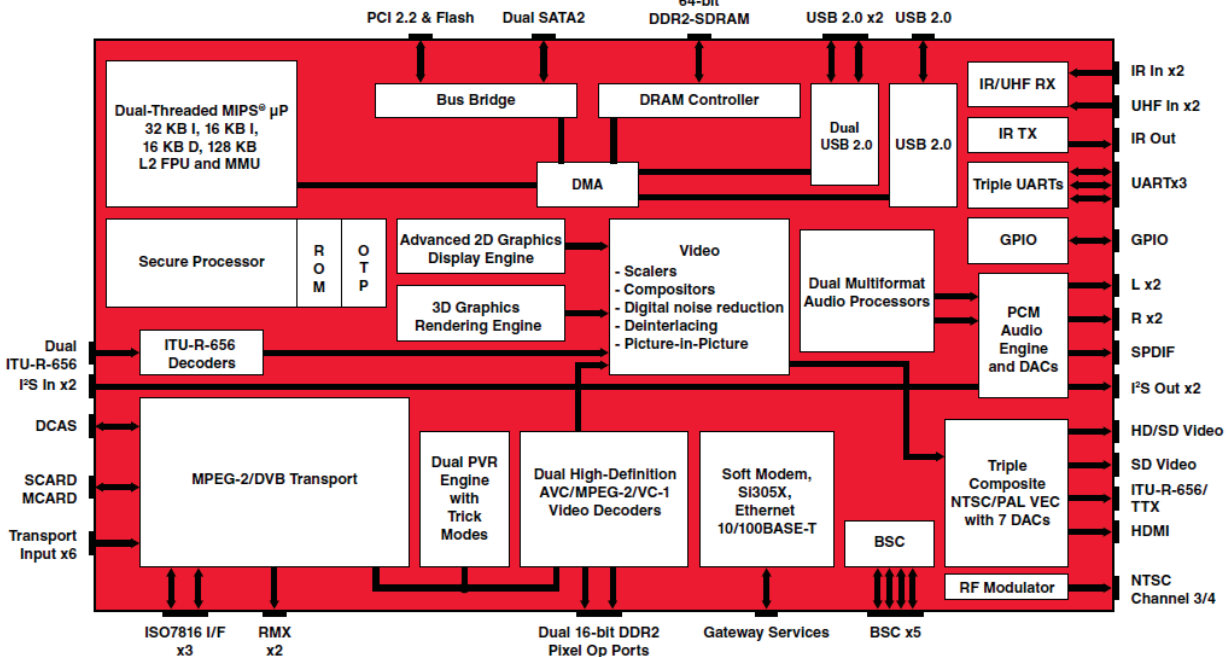
Exemplary Claim in U.S. 6,792,195	Samsung DVRs ¹
	 <p>BCM7400 Block Diagram</p> <p>The diagram illustrates the internal architecture of Samsung DVRs, centered around a red rectangular chip. Key components and their connections include:</p> <ul style="list-style-type: none"> Top Interfaces: PCI 2.2 & Flash, Dual SATA2, 64-bit DDR2-SDRAM, USB 2.0 x2, and USB 2.0. Internal Chip Components: <ul style="list-style-type: none"> Dual-Threaded MIPS[®] μP: 32 KB I, 16 KB I, 16 KB D, 128 KB L2 FPU and MMU. Secure Processor: Connected to ROM and OTP. Advanced 2D Graphics Display Engine and 3D Graphics Rendering Engine. Video Processing: Includes Scalers, Compositors, Digital noise reduction, Deinterlacing, and Picture-in-Picture. Dual Multiformat Audio Processors connected to PCM Audio Engine and DACs. ITU-R-656 Decoders and Dual PVR Engine with Trick Modes. Dual High-Definition AVC/MPEG-2/VC-1 Video Decoders. Soft Modem, Si305X, Ethernet 10/100BASE-T. BSC (Baseband Subsystem Controller) and RF Modulator. MPEG-2/DVB Transport block. DMA (Direct Memory Access) and Bus Bridge. DRAM Controller and Dual USB 2.0 ports. Bottom Interfaces: ISO7816 I/F x3, RMX x2, Dual 16-bit DDR2 Pixel Op Ports, Gateway Services, and BSC x5. Right-Side I/O: IR In x2, UHF In x2, IR Out, UARTx3, GPIO, L x2, R x2, SPDIF, I²S Out x2, HD/SD Video, SD Video, ITU-R-656/TTX, HDMI, and NTSC Channel 3/4. Left-Side I/O: Dual ITU-R-656 I²S In x2, DCAS, SCARD MCARD, and Transport Input x6.
Claim 64	
64. The process of claim 58, further comprising	Samsung DVRs provide a means for presenting the streaming material.

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
<p>the step of:</p> <p>providing presentation means for presenting the streaming access from said cache access means to a storage device.</p>	<p>For example, a Samsung DVR has a decoder that presents data streams as display signals and sends those signals to a display. <i>See, e.g.</i>, (Broadcom BCM 7400 Product Brief), at 1:</p> <div data-bbox="543 498 1253 725" data-label="Complex-Block"> <p style="text-align: center;">FEATURES</p> <ul style="list-style-type: none"> • Dual advanced AVC/MPEG-2/VC-1 decoders <ul style="list-style-type: none"> • H.264/AVC Main and High Profile to Level 4.1 • VC-1 Advanced Profile @ Level 3 • VC-1 Simple and Main Profile • HD MPEG-2 and SD MPEG-2 • MPEG still-picture decode • DivX[®] and MPEG4 part 2 ASP decode </div> <p>(Broadcom BCM 7400 Product Brief), at 2 (showing video decoders):</p>

EXHIBIT C

Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195

Samsung DVRs

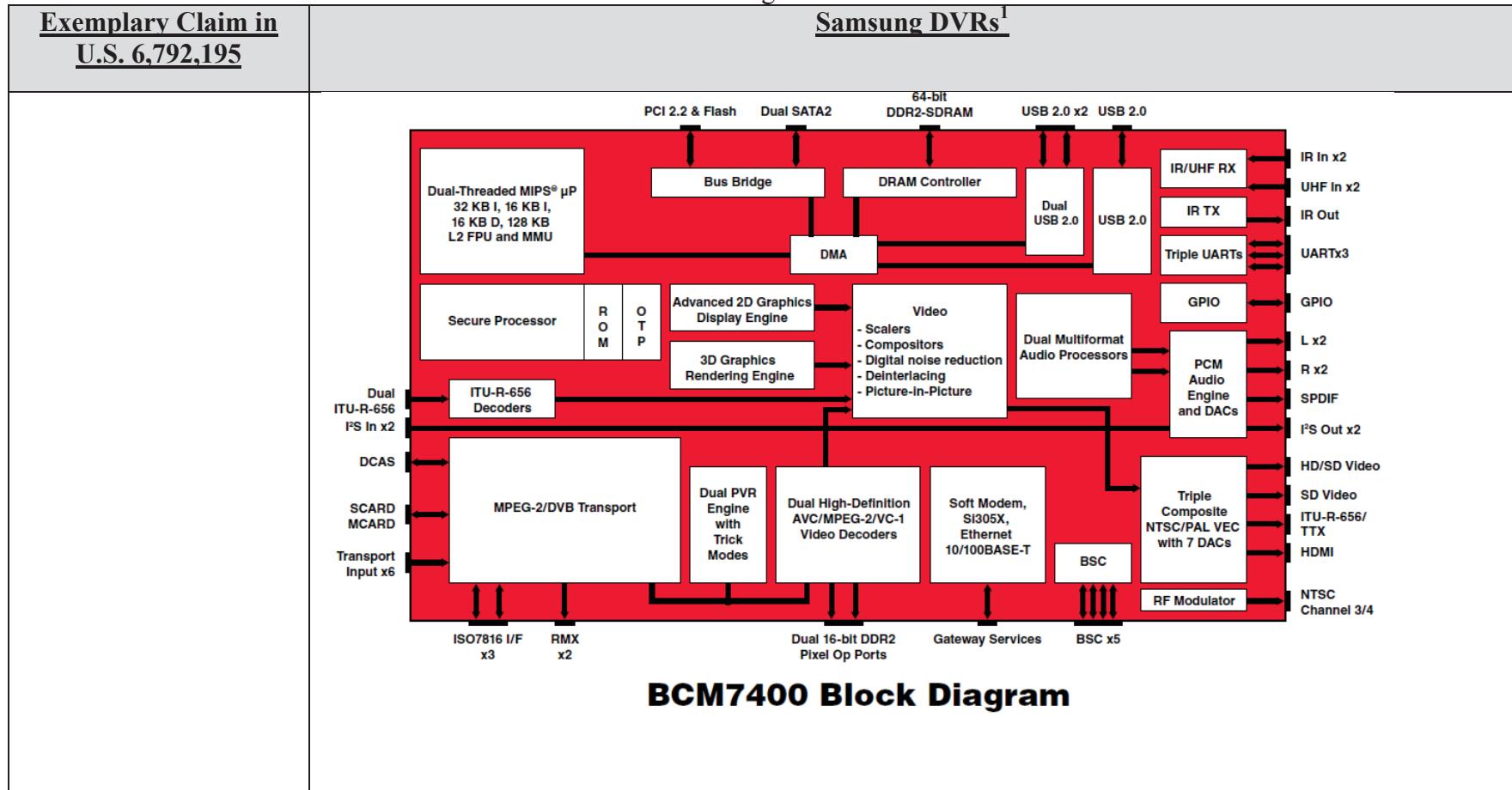


EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>The BCM7400 is a dual-channel high definition satellite, cable, and IP set-top box DVR solution offering integrated AVC (H.264/MPEG-4 Part 10), MPEG-2, MPEG-4 Part 2, DivX, and VC-1 video decoding technology. It combines a data transport processor, two high-definition AVC/MPEG-2/VC-1 video decoders, two advanced-audio decoders, 2D and 3D graphics processing, high-quality video scaling and motion adaptive deinterlacing, seven video DACs, dual stereo high-fidelity audio DACs, a dual-threaded 350-MHz MIPS32 with FPU class CPU, and a peripheral control unit providing a variety of set-top box control functions. The BCM7400 supports either DDR1 or DDR2 memory architectures.</p> <p>The MPEG-2 DVB-compliant transport stream/PES parser and demultiplexer is capable of simultaneously processing 256 PIDs via 128 PID channels in up to six independent external transport stream inputs and four internal playback channels. All 128 PID channels can be used by the record, audio, and video interface engine, PCR processing, message filter, and for output via the high-speed transport or remux module. The data transport module can be configured to support eight record channels for PVR functionality and six AV channels to interface to audio and video decoders. The transport provides 1DES/3DES/DVB/Multi2/AES descrambling support. A memory-to-memory DMA security module may be programmed for supporting AES/1DES/3DES/CSS/CPRM/CPFM/DTCP copy protection algorithms/standards. The BCM7400 features the Broadcom secure processor, providing secure key generation, management, and protection.</p> <p>The advanced video decoders featured in the BCM7400 are capable of supporting high definition AVC, VC-1, and MPEG-2 streams. AVC support is for Main and High Profile to level 4.1 for 720p and 1080i high definition support or to Level 3.1 for standard definition streams. AVC High Profile was added to the fidelity range extensions specifically to address the needs of consumer broadcast and playback applications. Tools include additional transform sizes and spatial prediction modes and support for adaptive quantization matrix. The video decoders also support high definition VC-1</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>(Advanced Profile Level 3, Main, and Simple Profiles) and MPEG-2, Main Profile at Main and High Level. The BCM7400 has two advanced audio processors capable of decoding Dolby Digital, Dolby Digital Plus, AAC 5.1, AAC+ level 2, and MPEG 1 layers 1, 2, and 3 with simultaneous pass-through support. 3D SRS audio is also supported. Available audio outputs are I²S, S/PDIF, and two pairs of analog outputs.</p> <p>On information and belief, Samsung DVRs have an MPEG-2 decoder that decodes standard definition and/or high definition television programs.</p>
Claim 73	
<p>73. The process of claim 58, wherein said cache access means implements a reverse function by moving a current block indicator backwards through said cache.</p>	<p>Samsung DVRs implement a reverse function that entails moving a current block indicator backwards through the cache.</p> <p>See, e.g.,</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	physical or logical location for playback or other manipulation.
providing cache access means for selecting a portion of the linear cache for streaming access to information stored therein;	<p>Samsung's DVRs provide a cache access means for selecting a portion of the linear cache for streaming access to information stored in the linear cache.</p> <p>See, e.g.,</p> <p>For example, Samsung's DVRs includes a controller that selects a portion of the linear cache for streaming access to information, to, among other things, pause, fast forward, slow forward, fast rewind, and slow rewind live television. This functionality utilizes a cache of data. Based on information and belief, Samsung's DVRs include a playback pointer that points to a block of data within the linear cache and can be moved or set to point to a new block of data to achieve random access.</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>																		
	<p>DVR Features</p> <p>SMT-H3090 supports DVR feature through the Hard Disk Drive as follows.</p> <table border="1"> <thead> <tr> <th>Feature</th><th>Description</th></tr> </thead> <tbody> <tr> <td>File Playback</td><td>Play, Stop, Rewind, Pause for recorded contents.</td></tr> <tr> <td>File Trick Mode</td><td>1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)</td></tr> <tr> <td>Time-Shift Recording</td><td>User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.</td></tr> <tr> <td>Instant Recording</td><td>Record live TV program instantly</td></tr> <tr> <td>Watching and Recording</td><td>Record two live TV programs simultaneously while watching two recorded programs on HDD.</td></tr> <tr> <td>Audio/Radio Recording</td><td>Audio or Radio program recording</td></tr> <tr> <td>Simultaneous Recording and Time Shift Recording</td><td>Up to two Simultaneous Recording and Time-Shift Recording on live TV programs</td></tr> <tr> <td>EPG Recording</td><td>Scheduled recording using EPG</td></tr> </tbody> </table> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the Cache Access Means, for example that of selecting a portion of the linear cache for streaming access to information stored therein, in substantially the same way, for example by providing hardware and/or software that access the data stored in the linear cache, to yield the same result, in which streaming access is provided to data stored in the linear cache.</p>	Feature	Description	File Playback	Play, Stop, Rewind, Pause for recorded contents.	File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)	Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.	Instant Recording	Record live TV program instantly	Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.	Audio/Radio Recording	Audio or Radio program recording	Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs	EPG Recording	Scheduled recording using EPG
Feature	Description																		
File Playback	Play, Stop, Rewind, Pause for recorded contents.																		
File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)																		
Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.																		
Instant Recording	Record live TV program instantly																		
Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.																		
Audio/Radio Recording	Audio or Radio program recording																		
Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs																		
EPG Recording	Scheduled recording using EPG																		

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	different playback rates.
providing synchronization means for synchronizing streamed information from said linear cache for delivery to said cache access means;	Samsung's DVRs provide synchronization means for synchronizing streamed information from the linear cache for delivery to the cache access means. See, e.g., Samsung's DVRs use Broadcom processors, such as Broadcom's 7400 series.

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>that have presentation timestamp (PTS) data for synchronization of packets.</p> <p>Based on information and belief, Samsung's DVRs use an I-frame table for selecting the desired presentation mode, and skip I-frames during presentation resulting in a time-shifted display, and synchronize content based in part on I-frames and PTS values.</p> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the Synchronization Means, for example that of synchronizing streamed information from said linear cache for delivery to said cache access means, in substantially the same way, for example by providing hardware and/or software that synchronizes the various types of data stored in the linear cache for playback, to yield the same result, in which streaming access is provided to data stored in the linear cache and the playback of the various types of stored data is synchronized for presentation to the user.</p>
<p>wherein said cache control means sends clock events to said cache access means to control a rate and direction of said streaming access; and</p>	<p>Samsung's DVRs sends clock events to said cache access means to control the rate and direction of the streaming access.</p> <p>See, e.g.,</p> <p>For example, Samsung's DVRs include a controller that allow users to control the rate and direction of playback, including pause, fast forward, slow forward, fast rewind, and slow rewind. The rate of playback can be controlled through various settings of fast or slow play, both in forward and reverse.</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>																		
	<p>DVR Features</p> <p>SMT-H3090 supports DVR feature through the Hard Disk Drive as follows.</p> <table border="1"> <thead> <tr> <th>Feature</th><th>Description</th></tr> </thead> <tbody> <tr> <td>File Playback</td><td>Play, Stop, Rewind, Pause for recorded contents.</td></tr> <tr> <td>File Trick Mode</td><td>1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)</td></tr> <tr> <td>Time-Shift Recording</td><td>User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.</td></tr> <tr> <td>Instant Recording</td><td>Record live TV program instantly</td></tr> <tr> <td>Watching and Recording</td><td>Record two live TV programs simultaneously while watching two recorded programs on HDD.</td></tr> <tr> <td>Audio/Radio Recording</td><td>Audio or Radio program recording</td></tr> <tr> <td>Simultaneous Recording and Time Shift Recording</td><td>Up to two Simultaneous Recording and Time-Shift Recording on live TV programs</td></tr> <tr> <td>EPG Recording</td><td>Scheduled recording using EPG</td></tr> </tbody> </table> <p>On information and belief, at least one of these slow forward playback and slow reverse playback modes are implemented by, among other things, increasing or decreasing the decoder system clock rate. For example, the PCR block may be used by rate managers to control the playback rate of the decoders.</p>	Feature	Description	File Playback	Play, Stop, Rewind, Pause for recorded contents.	File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)	Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.	Instant Recording	Record live TV program instantly	Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.	Audio/Radio Recording	Audio or Radio program recording	Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs	EPG Recording	Scheduled recording using EPG
Feature	Description																		
File Playback	Play, Stop, Rewind, Pause for recorded contents.																		
File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)																		
Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.																		
Instant Recording	Record live TV program instantly																		
Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.																		
Audio/Radio Recording	Audio or Radio program recording																		
Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs																		
EPG Recording	Scheduled recording using EPG																		

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>PCR Recovery Block</p> <p>The data transport design supports two equivalent PCR recovery circuits, each programmed independently.</p> <p>Each data transport PCR module is capable of extracting the PCR information from a selected packet stream and generating Timebase pulses (Timebase is a 27-MHz pulse train in 108-MHz clock domain) output that can be used by rate managers. Each PCR module is also used to send the extracted PCRs directly to the audio and video decoders to ensure that both decoders are using the same PCR.</p> <p>As another example, clock events may include packet timestamp data that may be used to pace playback of recorded data. For example:</p> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the Cache Control Means, for example that of controlling a rate and direction of said streaming access, in substantially the same way, for example by providing hardware and/or software that controls the rate and direction of streaming access to the linear cache, to yield the same result, in which streaming access is provided to data stored in the linear cache at different playback rates, in either forward or reverse.</p>
wherein said linear cache maintains a window that represents a time span into a past history of said data stream that includes a most recently stored	<p>Samsung's DVRs maintain a window (e.g., 90 minutes) in the linear cache that represents a time span into a past history of the data stream that includes a most recently stored portion of the data stream.</p> <p>See, e.g.,</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	for access to a time span of data stored in the linear cache, to yield the same result, in which a time span of past data can be played back from the linear cache.
wherein said linear cache discards any information that falls outside of said window.	<p>Samsung's DVRs discard any information that falls outside of the window of the linear cache.</p> <p>On information and belief, information that is older than 90 minutes is no longer accessible to the user or is otherwise discarded.</p> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the Linear Cache, for example that of discarding information that falls outside of said window, for example by providing hardware and/or software that prevents a user from accessing information outside of the window, to yield the same result, in which a user cannot access information that is older than the timespan of the window.</p>
Claim 79	
<p>79. The process of claim 78, further comprising the step of:</p> <p>providing stream capture means for capturing information for a particular data stream type and encoding said information before</p>	<p>Samsung's DVRs provide a means to capture data stream information and encode it before storing it in the linear cache.</p> <p>For example, on information and belief, Samsung DVR software encodes the information, for example, during selection of a particular channel, and similar functions, including without limitation recording a television program. See, e.g., (BCM7400 Product Brief) (showing a MPEG-2/DVB Transport unit):</p>

EXHIBIT C

Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195 Samsung DVRs

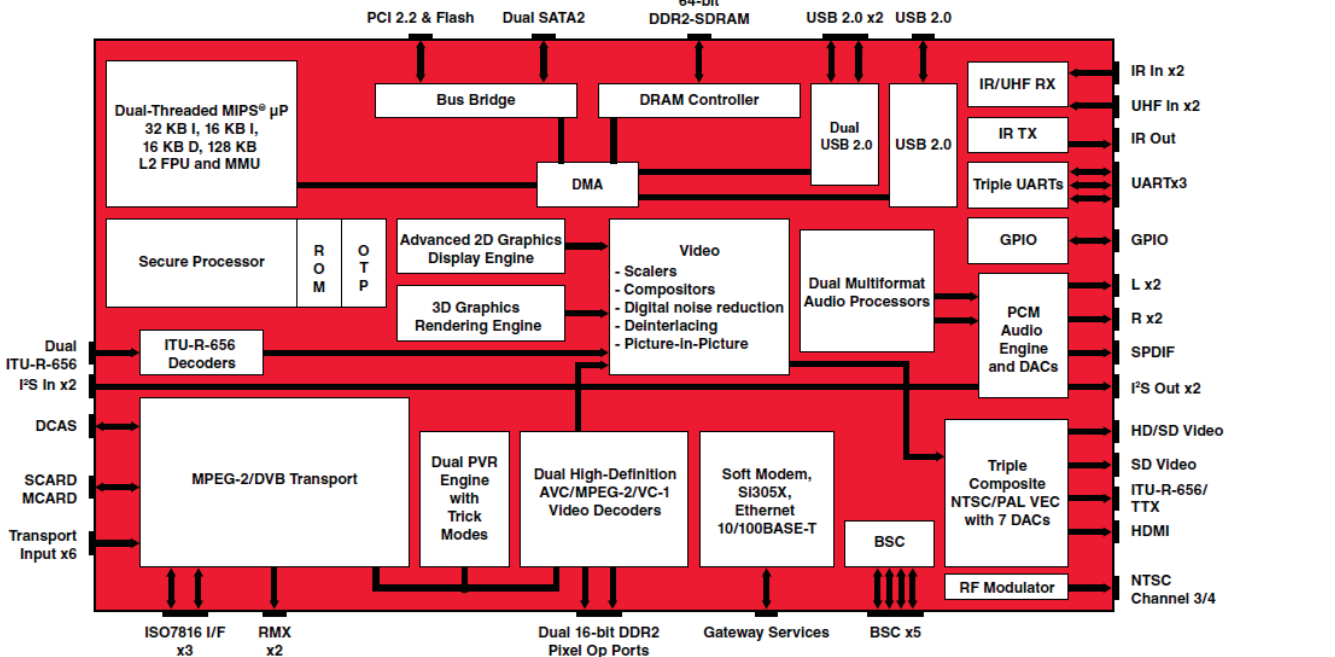
Exemplary Claim in U.S. 6,792,195	Samsung DVRs ¹
<p>storing said information in said linear cache.</p>	 <p>BCM7400 Block Diagram</p> <p>The diagram illustrates the internal architecture of the BCM7400 chip, which is a System-on-Chip (SoC) for digital video recording. Key components include:</p> <ul style="list-style-type: none"> Central Processing: Dual-Threaded MIPS® µP (32 KB I, 16 KB I, 16 KB D, 128 KB L2 FPU and MMU), Secure Processor, R O M, O T P. Storage and I/O: PCI 2.2 & Flash, Dual SATA2, 64-bit DDR2-SDRAM, USB 2.0 x2, USB 2.0, IR/UHF RX, IR TX, Triple UARTs, GPIO, L x2, R x2, SPDIF, I'S Out x2, HD/SD Video, SD Video, ITU-R-656/TTX, HDMI, NTSC Channel 3/4. Video Processing: Advanced 2D Graphics Display Engine, 3D Graphics Rendering Engine, Video (Scalers, Compositors, Digital noise reduction, Deinterlacing, Picture-In-Picture), Dual High-Definition AVC/MPEG-2/VC-1 Video Decoders, Soft Modem, Si305X, Ethernet 10/100BASE-T, BSC x5. Audio and Other: Dual Multiformat Audio Processors, PCM Audio Engine and DACs, Triple Composite NTSC/PAL VEC with 7 DACs, RF Modulator, DMA, Bus Bridge, DRAM Controller, Dual USB 2.0, USB 2.0, ITU-R-656 Decoders, DCAS, SCARD MCARD, Transport Input x6, ISO7816 I/F x3, RMX x2, Dual 16-bit DDR2 Pixel Op Ports, Gateway Services.
<p>Claim 83</p>	
<p>83. The process of claim 78, further comprising</p>	<p>Samsung DVRs provide a means for presenting the streaming material.</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
<p>the step of:</p> <p>providing presentation means for presenting the streaming access from said cache access means to a storage device.</p>	<p>For example, a Samsung DVR has a decoder that presents data streams as display signals and sends those signals to a display. <i>See, e.g.</i>, (Broadcom BCM 7400 Product Brief), at 1:</p> <div data-bbox="543 498 1253 725" data-label="Complex-Block"> <p style="text-align: center;">FEATURES</p> <ul style="list-style-type: none"> • Dual advanced AVC/MPEG-2/VC-1 decoders <ul style="list-style-type: none"> • H.264/AVC Main and High Profile to Level 4.1 • VC-1 Advanced Profile @ Level 3 • VC-1 Simple and Main Profile • HD MPEG-2 and SD MPEG-2 • MPEG still-picture decode • DivX[®] and MPEG4 part 2 ASP decode </div> <p>(Broadcom BCM 7400 Product Brief), at 2 (showing video decoders):</p>

EXHIBIT C

Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195

Samsung DVRs

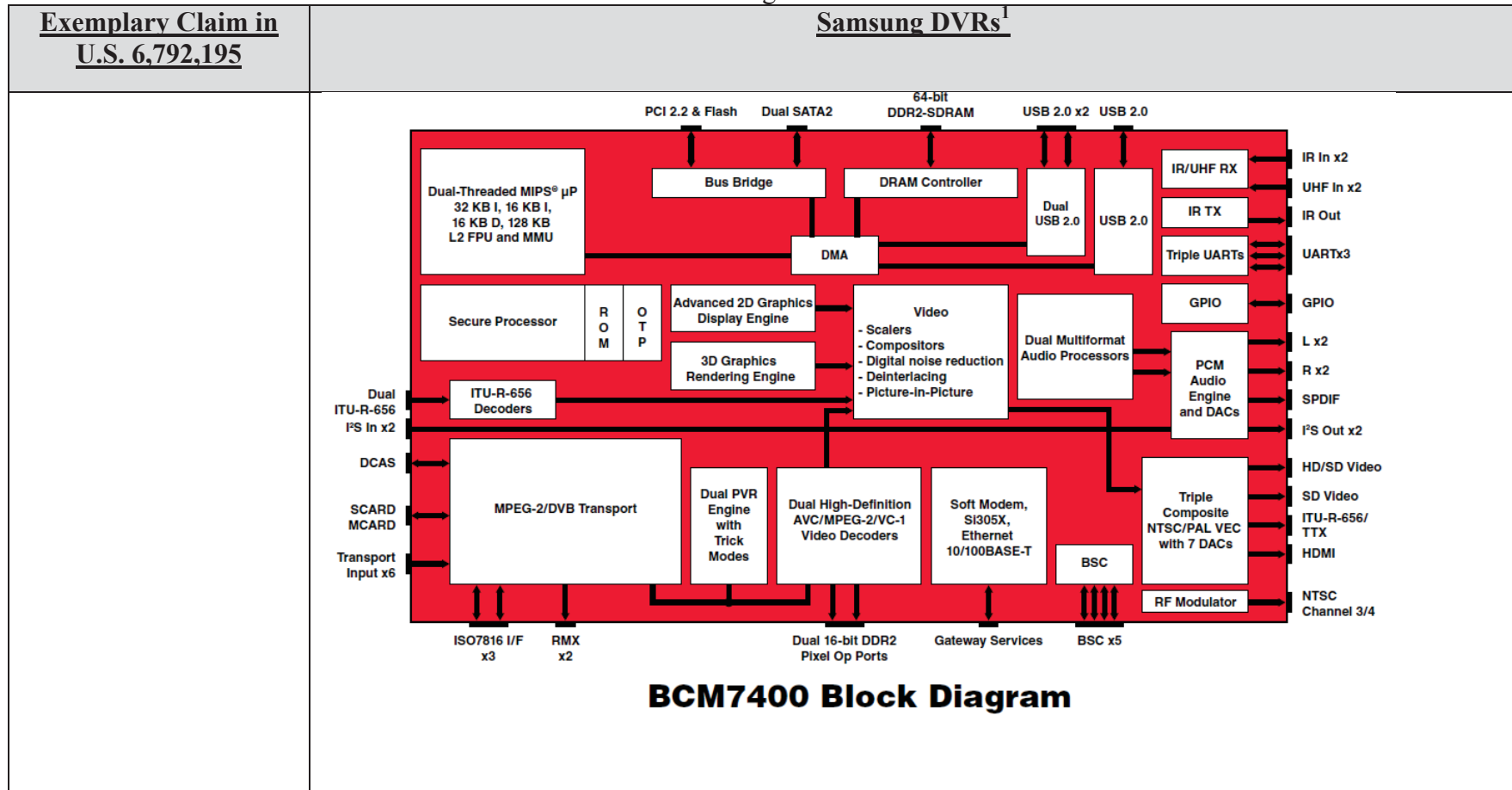


EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>The BCM7400 is a dual-channel high definition satellite, cable, and IP set-top box DVR solution offering integrated AVC (H.264/MPEG-4 Part 10), MPEG-2, MPEG-4 Part 2, DivX, and VC-1 video decoding technology. It combines a data transport processor, two high-definition AVC/MPEG-2/VC-1 video decoders, two advanced-audio decoders, 2D and 3D graphics processing, high-quality video scaling and motion adaptive deinterlacing, seven video DACs, dual stereo high-fidelity audio DACs, a dual-threaded 350-MHz MIPS32 with FPU class CPU, and a peripheral control unit providing a variety of set-top box control functions. The BCM7400 supports either DDR1 or DDR2 memory architectures.</p> <p>The MPEG-2 DVB-compliant transport stream/PES parser and demultiplexer is capable of simultaneously processing 256 PIDs via 128 PID channels in up to six independent external transport stream inputs and four internal playback channels. All 128 PID channels can be used by the record, audio, and video interface engine, PCR processing, message filter, and for output via the high-speed transport or remux module. The data transport module can be configured to support eight record channels for PVR functionality and six AV channels to interface to audio and video decoders. The transport provides 1DES/3DES/DVB/Multi2/AES descrambling support. A memory-to-memory DMA security module may be programmed for supporting AES/1DES/3DES/CSS/CPRM/CPFM/DTCP copy protection algorithms/standards. The BCM7400 features the Broadcom secure processor, providing secure key generation, management, and protection.</p> <p>The advanced video decoders featured in the BCM7400 are capable of supporting high definition AVC, VC-1, and MPEG-2 streams. AVC support is for Main and High Profile to level 4.1 for 720p and 1080i high definition support or to Level 3.1 for standard definition streams. AVC High Profile was added to the fidelity range extensions specifically to address the needs of consumer broadcast and playback applications. Tools include additional transform sizes and spatial prediction modes and support for adaptive quantization matrix. The video decoders also support high definition VC-1</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>(Advanced Profile Level 3, Main, and Simple Profiles) and MPEG-2, Main Profile at Main and High Level. The BCM7400 has two advanced audio processors capable of decoding Dolby Digital, Dolby Digital Plus, AAC 5.1, AAC+ level 2, and MPEG 1 layers 1, 2, and 3 with simultaneous pass-through support. 3D SRS audio is also supported. Available audio outputs are I²S, S/PDIF, and two pairs of analog outputs.</p> <p>On information and belief, Samsung DVRs have an MPEG-2 decoder that decodes standard definition and/or high definition television programs.</p>
Claim 92	
<p>92. The process of claim 78, wherein said cache access means implements a reverse function by moving a current block indicator backwards through said cache.</p>	<p>Samsung DVRs implement a reverse function that entails moving a current block indicator backwards through the cache.</p> <p>See, e.g.,</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the Linear Cache, for example that of storing information from said data stream, in substantially the same way, for example by storing the data in a physical or logical storage location, to yield the same result, a stream of data that can be read from the physical or logical location for playback or other manipulation.</p>
<p>providing cache access means for selecting a portion of said linear caches for streaming access;</p>	<p>Samsung's DVRs provide a cache access means for selecting a portion of said linear caches for streaming access to information stored in the linear cache.</p> <p>See, e.g.,</p> <p>For example, Samsung's DVRs includes a controller that selects a portion of the linear cache for streaming access to information, to, among other things, pause, fast forward, slow forward, fast rewind, and slow rewind live television. This functionality utilizes a cache of data. Based on information and belief, Samsung's DVRs include a playback pointer that points to a block of data within the linear cache and can be moved or set to point to a new block of data to achieve random access.</p>

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

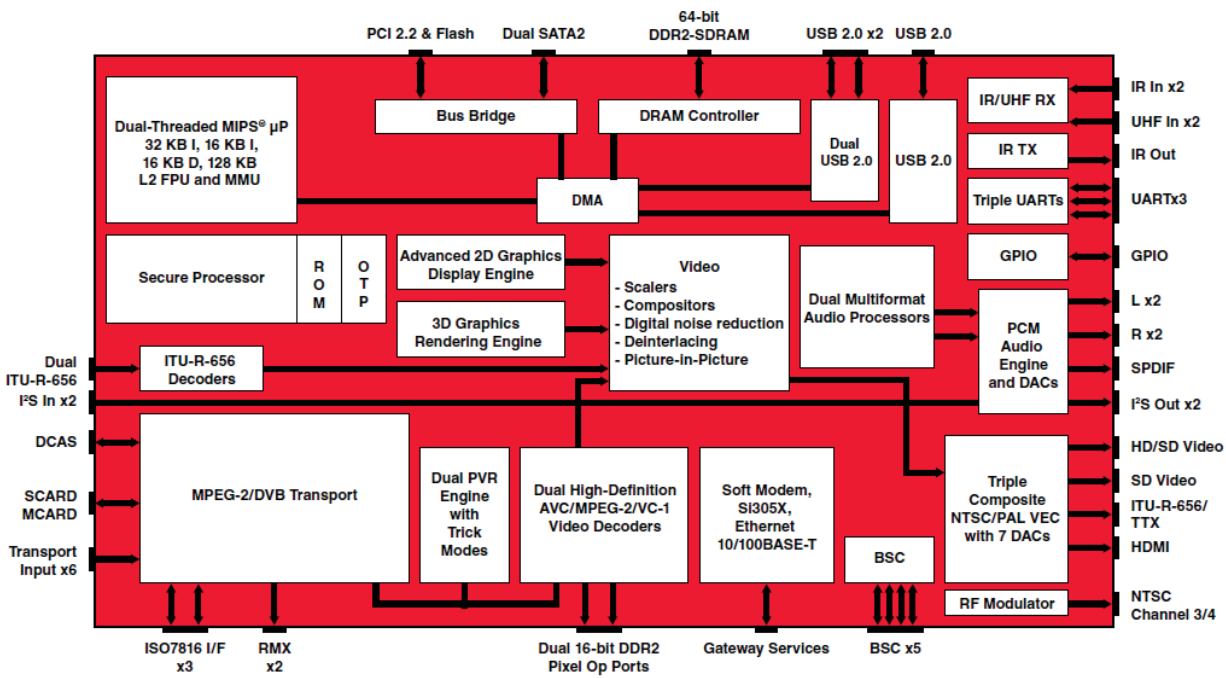
<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>																		
	<p>DVR Features</p> <p>SMT-H3090 supports DVR feature through the Hard Disk Drive as follows.</p> <table border="1"> <thead> <tr> <th>Feature</th><th>Description</th></tr> </thead> <tbody> <tr> <td>File Playback</td><td>Play, Stop, Rewind, Pause for recorded contents.</td></tr> <tr> <td>File Trick Mode</td><td>1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)</td></tr> <tr> <td>Time-Shift Recording</td><td>User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.</td></tr> <tr> <td>Instant Recording</td><td>Record live TV program instantly</td></tr> <tr> <td>Watching and Recording</td><td>Record two live TV programs simultaneously while watching two recorded programs on HDD.</td></tr> <tr> <td>Audio/Radio Recording</td><td>Audio or Radio program recording</td></tr> <tr> <td>Simultaneous Recording and Time Shift Recording</td><td>Up to two Simultaneous Recording and Time-Shift Recording on live TV programs</td></tr> <tr> <td>EPG Recording</td><td>Scheduled recording using EPG</td></tr> </tbody> </table> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the Cache Access Means, for example that of selecting a portion of the linear cache for streaming access to information stored therein, in substantially the same way, for example by providing hardware and/or software that access the data stored in the linear cache, to yield the same result, in which streaming access is provided to data stored in the linear cache.</p>	Feature	Description	File Playback	Play, Stop, Rewind, Pause for recorded contents.	File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)	Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.	Instant Recording	Record live TV program instantly	Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.	Audio/Radio Recording	Audio or Radio program recording	Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs	EPG Recording	Scheduled recording using EPG
Feature	Description																		
File Playback	Play, Stop, Rewind, Pause for recorded contents.																		
File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)																		
Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.																		
Instant Recording	Record live TV program instantly																		
Watching and Recording	Record two live TV programs simultaneously while watching two recorded programs on HDD.																		
Audio/Radio Recording	Audio or Radio program recording																		
Simultaneous Recording and Time Shift Recording	Up to two Simultaneous Recording and Time-Shift Recording on live TV programs																		
EPG Recording	Scheduled recording using EPG																		

EXHIBIT C
Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195
Samsung DVRs

<u>Exemplary Claim in</u> <u>U.S. 6,792,195</u>	<u>Samsung DVRs¹</u>
	<p>“The STB allows for 90 minutes of recording for Time-shift recording”</p> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the linear cache, for example that of maintaining a window that represents a time span into a past history of said data stream that includes a most recently stored portion of said data stream, for example by providing hardware and/or software that allows for access to a time span of data stored in the linear cache, to yield the same result, in which a time span of past data can be played back from the linear cache.</p>
<p>wherein said linear cache discard any information that falls outside of said window.</p>	<p>Samsung's DVRs discard any information that falls outside of the window of the linear cache.</p> <p>On information and belief, information that is older than 90 minutes is no longer accessible to the user or is otherwise discarded.</p> <p>To the extent any differences are alleged to exist between this claim element and the above referenced functionality, such differences are insubstantial. On information and belief, the hardware and software in the Samsung DVRs perform substantially the same function as the Linear Cache, for example that of discarding information that falls outside of said window, for example by providing hardware and/or software that prevents a user from accessing information outside of the window, to yield the same result, in which a user cannot access information that is older than the timespan of the window.</p>
Claim 121	
<p>121. The process of claim 119, further comprising the step of:</p>	<p>See claim 119 above</p>
<p>providing stream capture</p>	<p>Samsung's DVRs provide a means to capture data stream information and encode it before storing it in the</p>

EXHIBIT C

Preliminary Infringement Claim Chart for U.S. Pat. No. 6,792,195 Samsung DVRs

Exemplary Claim in U.S. 6,792,195	Samsung DVRs ¹
<p>means for capturing the information for a particular data stream type.</p>	<p>linear cache.</p> <p>For example, on information and belief, Samsung DVR software encodes the information, for example, during selection of a particular channel, and similar functions, including without limitation recording a television program. See, e.g., (BCM7400 Product Brief) (showing a MPEG-2/DVB Transport unit):</p>  <p>BCM7400 Block Diagram</p> <p>The diagram illustrates the internal architecture of the BCM7400 chip. Key components include:</p> <ul style="list-style-type: none"> Top Section: Dual-Threaded MIPS® µP (32 KB I, 16 KB D, 128 KB L2 FPU and MMU), Bus Bridge, DRAM Controller, DMA, Dual USB 2.0, and USB 2.0. Left Side: Dual ITU-R-656 I/S In x2, DCAS, SCARD MCARD, and Transport Input x6. Center: Secure Processor, ROM, OTP, Advanced 2D Graphics Display Engine, 3D Graphics Rendering Engine, Video (Scalers, Compositors, Digital noise reduction, Deinterlacing, Picture-In-Picture), Dual PVR Engine with Trick Modes, Dual High-Definition AVC/MPEG-2/VC-1 Video Decoders, Soft Modem, Si305X, Ethernet 10/100BASE-T, and BSC. Right Side: IR/UHF RX, IR TX, Triple UARTs, GPIO, L x2, R x2, SPDIF, I/S Out x2, HD/SD Video, SD Video, ITU-R-656/TTX, HDMI, and NTSC Channel 3/4. Bottom: ISO7816 I/F x3, RMX x2, Dual 16-bit DDR2 Pixel Op Ports, Gateway Services, and BSC x5.